

**Stockton Deep Water Ship Channel (DWSC)
Demonstration Dissolved Oxygen Aeration Facility
November 2010 Monthly Report**

This report includes monthly plots for the Stockton Deep Water Ship Channel (DWSC) Demonstration Dissolved Oxygen (DO) Aeration Facility remote monitoring stations (Navigation Aid (NA) 40, 42, 43 and 48), handheld instrument data, California Data Exchange Center (CDEC) Rough and Ready Island (RRI) station data, and CDEC San Joaquin River at Garwood Bridge (SJG) station data for the month of November 2010. All reported data is provisional and subject to change.

Summary:

The Aeration Facility has been off since September 14th, 2010. The average monthly DO levels at all monitoring stations for November were above the California Regional Water Quality Control Board (RWQCB) San Joaquin River Basin Plan minimum water quality objective for DO of 6.0 mg/L from September 1st through November 30th. Monthly average DO concentrations for November ranged from 7.99 mg/L at RRI to 8.63 mg/L at NA40.

Minimum 15-minute DO concentrations recorded for all monitoring stations were above the 6.0 mg/L minimum water quality objective (see Table 1). The monthly average remote monitoring station DO concentrations were within 0.08 to 0.63 mg/L of the RRI station data. There is no substantial difference between the DO measurements recorded with the handheld instrument and the remote stations. The monthly average handheld measured DO (at 12 foot depth) and the remote monitoring stations DO values were within -0.05 to 0.29 mg/L of each other.

The average monthly water temperature decreased 10.1° Fahrenheit (°F) from 69.1°F last month in October to 59.0°F in November.

The November monthly average SJG flow was 121 cubic feet per second (cfs). The monthly average flow decreased 485 cfs from the October monthly average flow of 606 cfs.

Figures 1, 2, 3, and 4, and Tables 1 and 2 below present a summary of monthly data, and illustrates the discussion topics above.

Figure 1

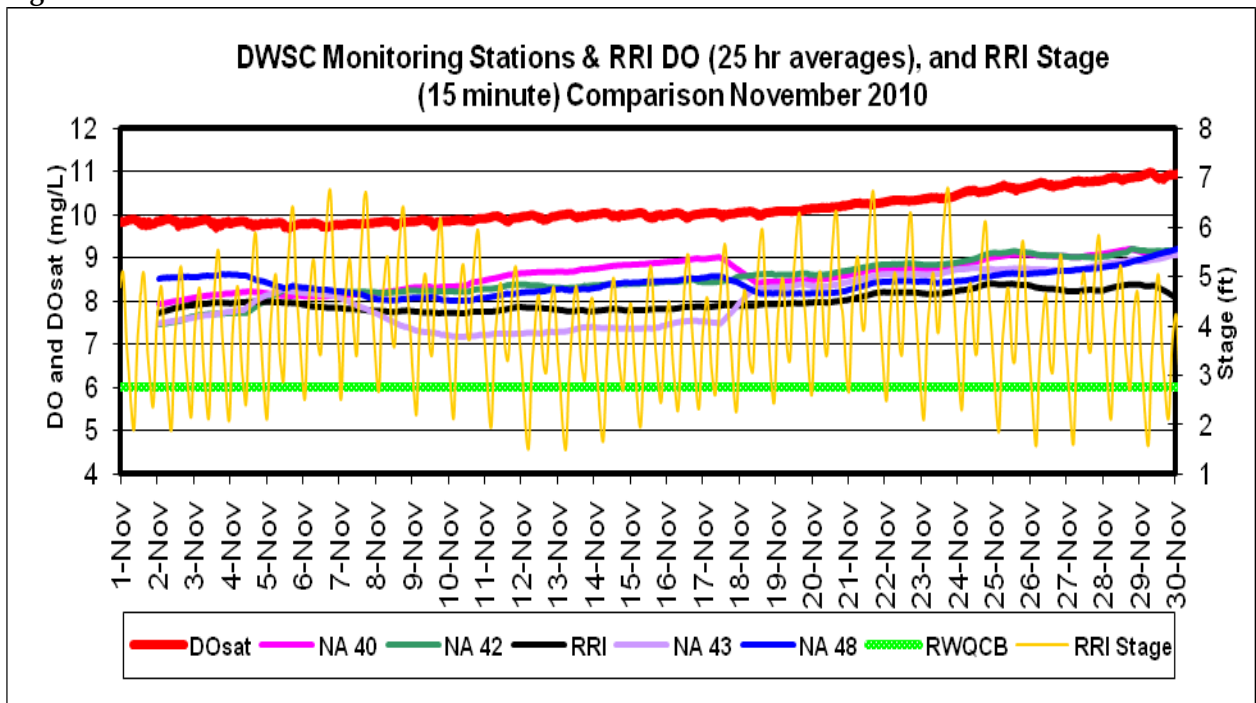


Figure 2

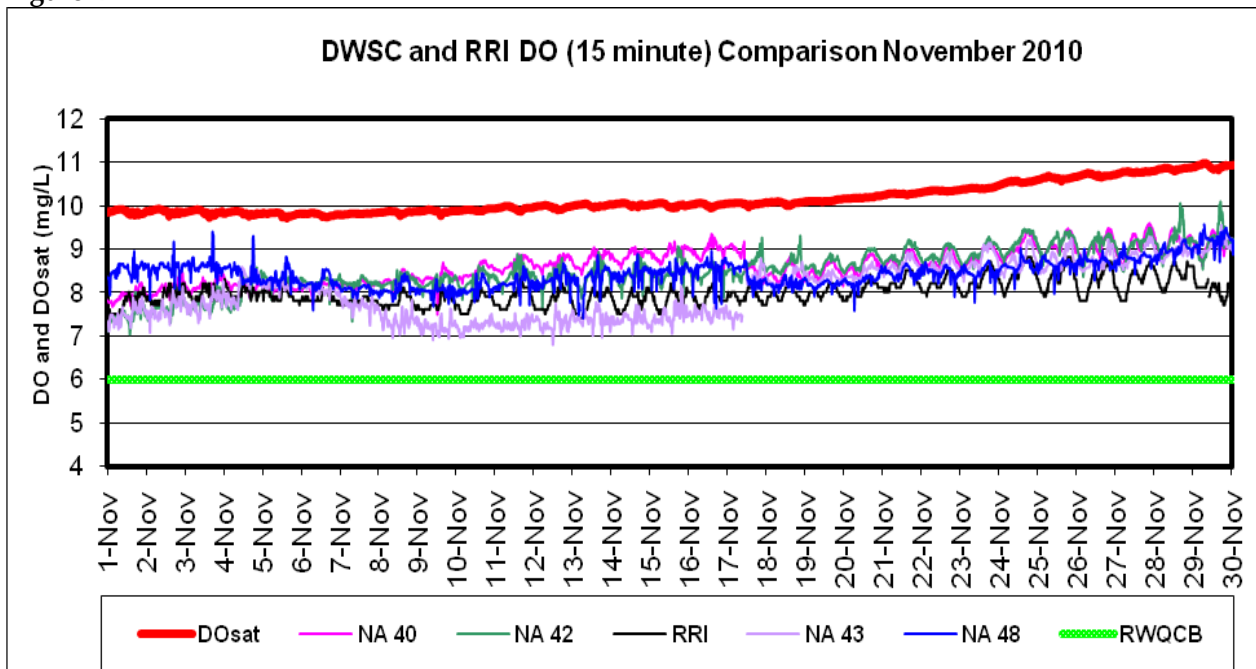


Figure 3

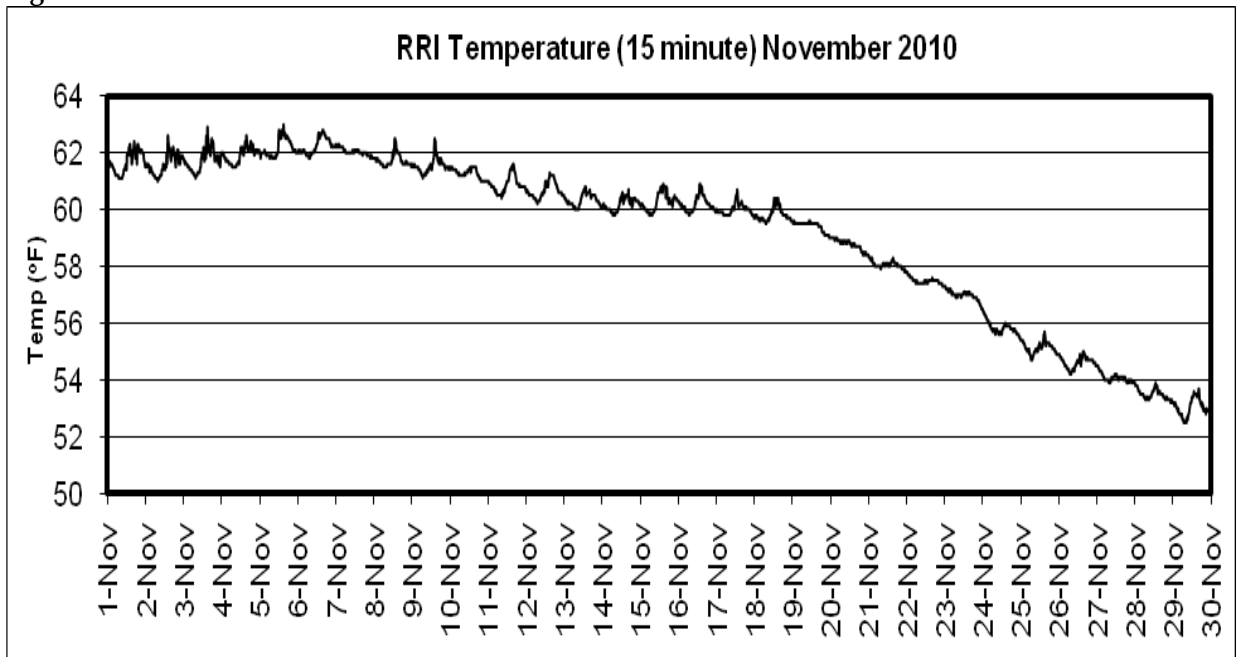


Figure 4

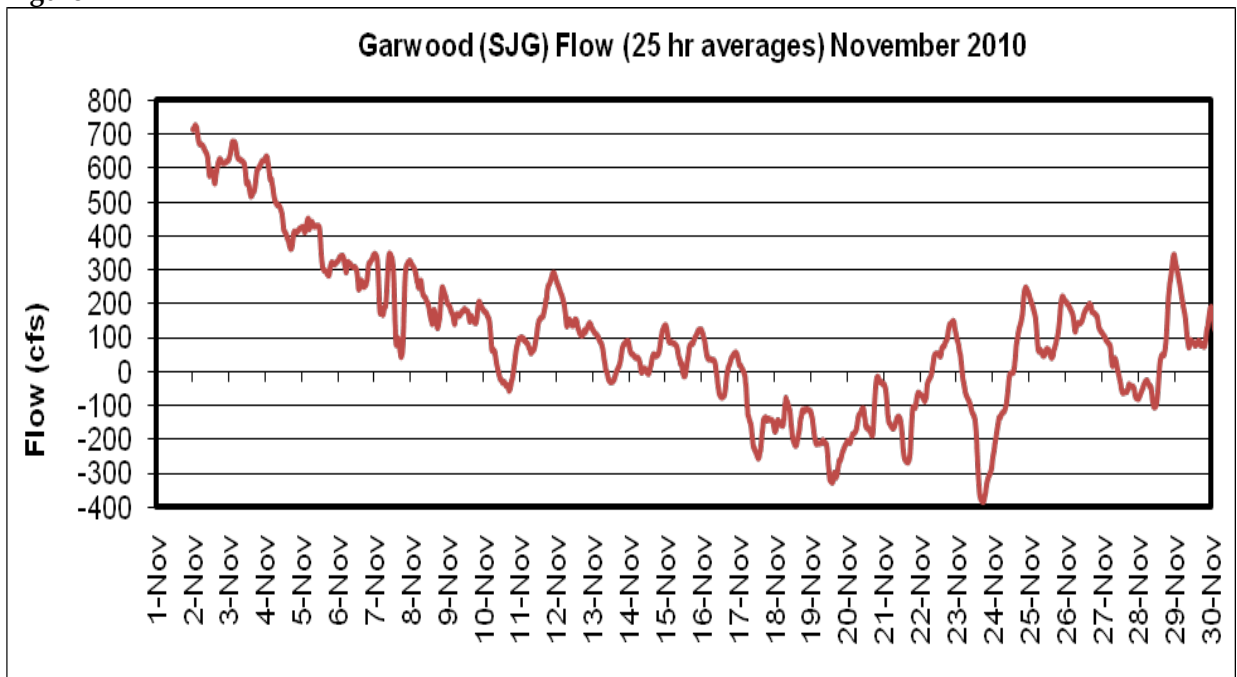


Table 1

YSI Remote Stations and RRI DO ¹ (mg/L) & Temp ¹ (°F)						
Nov-2010						
	RRI ² DO (mg/L)	NA40 DO (mg/L)	NA42 DO (mg/L)	NA43 DO (mg/L)	NA48 DO (mg/L)	RRI Temp (°F)
Monthly DO & Temp Averages	7.99	8.63	8.54	8.08	8.47	59.0
NA Stations and RRI Monthly Average Difference		0.63	0.54	0.08	0.47	
Monthly Min DO	7.40	7.50	7.03	6.79	7.40	
Monthly Max DO	8.80	9.59	10.09	9.55	9.59	
Monthly DO STDEV	0.28	0.40	0.50	0.66	0.34	
Monthly DO Median	8.00	8.66	8.50	8.15	8.45	

¹Z-Score outlier test was applied to remove anomalous recorded values.

²RRI DO data is from 3 foot depth. NA DO data is from 12 foot depth except NA48. NA48 DO data is from 9 foot depth starting November 24th, 2010.

Table 2

Handheld DO Measurements @ 12 ft Depth and YSI DO Measurements Comparison					
Nov-2010					
		NA40 DO (mg/L)	NA42 DO (mg/L)	NA43 DO (mg/L)	NA48 DO (mg/L)
Handheld Monthly ³ Averages		8.34	8.30	8.13	8.26
NA Stations and Handheld Monthly Average Difference		0.29	0.24	-0.05	0.21

³Handheld monthly averages are based on the average weekly readings for the month

Additional Aeration Facility Associated Information:

DWSC Aeration Facility Operation

Off

DWSC Water Quality Stations Maintenance/Calibration

The North Central Region Office (NCRO) Water Quality Evaluation Section serviced the four remote monitoring stations (NA40, 42, 43, and 48) in the DWSC on November 4th and 17th.

Head of Old River Barrier Status

Not installed

Port of Stockton Dredging Activity

Maintenance dredging occurred upstream of river mile 36 (near NA 40) from November 19th through November 24th. In addition, dredging in the East Complex occurred from November 29th through November 30th.

San Joaquin River Flow Changes

None

Port of Stockton Dock 19/20 Ship Activity

None

Please provide your feedback concerning our observations as well as your independent observations.